

BRICK ROADS ARE EASILY MAINTAINED



Laying Vitrified Brick for Country Road Pavement.

Vitrified brick roads, according to the road specialists of the department of agriculture, possess three distinct advantages. First, they are durable under all traffic conditions; second, they afford easy traction and moderately good foothold for horses; and third, they are easy to maintain and keep clean. On the other hand, they are unquestionably expensive to construct and the effort to reduce the high first cost frequently results in inferior construction and consequent defects.

The cost of a brick pavement depends so much upon so many variable factors such as the locality, freight rates and the distance from brick kiln that it is not possible to make any definite estimates. The cost of the rough grading, however, should be considered entirely apart from the cost of the pavement, for the grading would have to be done no matter what kind of a road was to be built. Excluding this item, the bulletin already mentioned (No. 246) furnishes the following formula as a rough guide for the probable expense of a brick road with a six-inch concrete foundation and suitable grades: Cost per square yard equals 1.90-L, plus .213-C, plus .138-S, plus .157-A, plus .040-B.

In this formula C equals cost of cement per barrel, S equals cost of sand per cubic yard, A equals cost of coarse aggregate per cubic yard, B equals cost of paving brick per 1,000, and L equals cost of labor per hour. Thus, if labor costs 25 cents an hour, the labor cost per square yard of pavement will be 1.90 times 25 cents, or 47.50 cents. The cost of the cement per square yard will be .213 times the price of a barrel and so on with the other items. It is assumed in this formula that all materials are delivered on the work. About 10 per cent should be allowed for wear on tools and machinery, and for every inch subtracted or added to the thickness of the foundation there will be a corresponding difference of 8 to 12 cents per square yard.

A more important test is known as the rattle or abrasion test. In this the bricks are subjected to destructive influences similar to those encountered in actual service, and the effects resemble those which traffic may be expected to produce upon the completed pavement. Briefly the test consists of inclosing 10 dried bricks in a steel barrel in which there are also placed a number of cast-iron spheres. Ten of these spheres weigh each 7½ pounds. Enough smaller ones weighing a little less than a pound are added to make the total weight approximately 300 pounds. The barrel is then revolved at the rate of 30 revolutions a minute for an hour. At the end of that time the bricks are taken out and weighed, and their loss in weight ascertained. In this test good paving brick will lose from 18 to 24 per cent of its weight.

Equally important with the char-

acter of the brick is the character of the roadbed on which it is to be laid. The four essentials for the roadbed are thorough drainage, firmness, uniformity in grade and cross section, and adequate shoulders. Where the first can be obtained in no other way it may be necessary to lift the road considerably above the surrounding land. Firmness is secured, if the road has been properly drained, by making certain that the roadbed is thoroughly compact. The subgrade must be repeatedly rolled and reshaped until the desired grade is secured.

Strong, desirable curbing is necessary for all brick pavements in order to prevent the marginal brick from becoming displaced, which event would result in deterioration, finally spreading over the entire pavement.

One of the most essential factors of a brick pavement is a firm foundation upon which to lay the brick. The importance of this is evident when one considers that the ability of pavement to resist wear depends upon the smoothness of the pavement and a firm foundation. If the foundation is poor one of the bricks may be easily forced down, causing unevenness in the surface. Where the traffic is comparatively light and the subgrade composed of material that does not readily absorb water, broken stone may make a satisfactory base. For heavier traffic or where the material composing the subgrade is at all unstable a concrete base is necessary.

After the brick has been laid upon this cushion and the pavement gone over carefully to remedy all defects and remove all imperfect material, it should be rolled with a heavy power roller, gone over carefully once more, and the joints then filled with some material to prevent the brick edges from chipping. Of the various materials used for this purpose a grout made of equal portions of Portland cement and sand mixed with water is recommended. Sand alone is sometimes used because of its cheapness, but it is open to several objections and its use in the end is probably not economical. Portland cement grout, on the other hand, binds the individual bricks together and converts the pavement into what is practically a monolith. Before the grout is applied the pavement should be swept clean and be kept moist by gentle sprinkling during the application, of which there should be two. At the end of the second application the grout should completely fill the joints flush with the tops of the joints. The final step is to cover the completed pavements with a one-inch layer of fine earth. This is done to protect the pavement from the weather and to keep it in a moist condition while the grout is hardening.

In addition to the description of the various problems the new bulletin contains in an appendix complete typical specifications for the construction of a brick road.

TEST FOR WHITE DIARRHEA

Chicks Too Small for Market, of Slow Growth and Feathering Might Well Be Killed Off.

If you have chicks now coming on old enough to be on the market, and yet too small for such purpose, runts of slow growth and slow feathering, you might just as well kill them off and not hope they will yet take a start, for no doubt, but they are carrying the germs of bacillary white diarrhea. Not all by any means that take this disease show the bowel looseness.

Flocks suspected of having members in it infected with this disease are now being tested for it by the Connecticut agricultural college. The testing is done by a little blood being drawn from a vein in one wing of each fowl. This blood is mixed with a serum to be put by for a few days. The mixture is labeled, and the fowl is given same label. In a few days the eye, without need of a microscope, tells whether this serum and

blood mixture shows any trace of the disease.

Line Breeding Defined.
Professor Thomas Shaw, in his book, "Animal Breeding," says line breeding may be defined as the process of breeding within the members of one family, or of a limited number of families, possessed of similar types. As usually conducted, no animals are inter-bred which are not closely connected in the general lines of their blood.

Best Calves for Dairy.
As a general rule it is poor policy to raise a puny, undersized calf for dairy and breeding purposes. Only the best calves from the best milking families should be raised.

Bull is an Index.
The kind of a bull a man keeps is a pretty fair index to the kind of a dairyman his owner is.

Keep on Cultivating.
Keep the cultivator going in the corn.

WITH THE GOOSEBERRY

RECIPES FOR PRESERVES AND OTHER DISHES.

Made Up Into Jam It Will Be Appreciated in the Winter—Method of Serving Them in Batter.

Gooseberry Jam.—Seven pounds green gooseberries, eight pounds sugar.

Method.—Top and tail the gooseberries and place them in a preserving pan. Add the sugar and slowly bring to boiling point and boil for 40 minutes. If the jam jellies quickly when a sample is placed on a saucer it is quite ready and must be bottled at once.

To Bottle Gooseberries.—Gather together some bottles with wide necks. See that they are perfectly clean and dry. Fill them with gooseberries and place in the oven until thoroughly hot through without breaking the skins. Remove from the oven, add two tablespoonfuls sugar to each bottle, and fill up with boiling water. Seal with paraffin and store.

Gooseberries in Batter.—Four tablespoonfuls flour, two eggs, pinch salt, half pint milk, half pint gooseberries, one tablespoonful sugar, ten ounces dripping or butter.

Method.—Prepare the batter by mixing the flour and salt with a little milk and the eggs beaten to a froth. Beat this thoroughly until smooth and the surface free of bubbles. Stir in gently the remainder of the milk. Heat the fat until smoking hot in a baking tin and pour in the batter and gooseberries. Bake in a hot oven for half to three-quarters of an hour. Cut into sections and sprinkle freely with pulverized sugar.

Gooseberry Souffle.—One pint stewed gooseberries, quarter pound sugar, two ounces butter, 1½ ounces flour, two teaspoonfuls corn flour, three eggs, one teaspoonful milk.

Method.—Prepare a sauce with the flour, corn flour, milk and butter. Stir in the gooseberry pulp and the yolks of eggs, also the sugar. Beat the whites to a stiff froth and fold these carefully into the mixture. Prepare a souffle mold by tying a greased paper round the top. Place the mixture in the tin and steam for an hour. Turn out very carefully and serve at once.

Gooseberry Jelly.—Seven pounds green gooseberries, two quarts water, one pound sugar to each pint liquid.

Method.—Crush the gooseberries with the rolling-pin or potato masher. Place these in a pan with the water and cook until soft and tender. Strain the mixture very carefully, without squeezing, through a coarse cloth. Add a pound of sugar to each pint of liquid and boil for half an hour to three-quarters.

Ideal Soup Kettle.
One of the woeful aspects of soup-making in the pre-enamel-ware days was the cleansing of the heavy iron kettle; for washing a kettle big enough to hold a shinbone of beef with trimmings was no joke. Today, however, one can have the trim, enameled kettle in any size, light, yet strong, and all it needs is hot suds and a good rinsing to make it beautifully clean and sanitary. If, in addition, there is a colander of enamel ware for straining of the soup into a pan to match, the equipment is ideal for cleanliness, quickness and results.

Orange Cake.
One-half cupful butter, one cupful sugar, three eggs, one-half cupful milk, one and one-half cupfuls flour, three-fourths teaspoonful baking powder. Stir butter and sugar to a cream, beat the whites of three eggs to a stiff froth and add them to the sifted flour and baking powder, with the milk, alternately, to the creamed butter and sugar. Bake in two equal-sized tins.

Plums in Rice Border.
Cook the rice in milk until tender and quite dry, adding a pinch of salt when it is half done. Make it rather sweet with powdered sugar and pour into a border mold to set. When ready to serve, turn it out carefully and fill the center with very rich stewed plums, pour a little of the sirup over the rice and heap whipped cream over the plums. The stones should be removed from the fruit and the kernels simmered ten minutes in a little thin sirup and then mix with the fruit.

Prune Souffle.
Mash sufficient prunes to make one-half pint, press through a colander, add four tablespoonfuls sugar and stir in the well-beaten whites of four eggs. Turn into baking dish, dust with powdered sugar and bake in moderately quick oven ten minutes.

New Flavoring.
Several tablespoonfuls of peanut butter creamed with the shortening are recommended for giving a novel and delicious flavor to cookies or any dark cake.

BUILD A CURTAIN-FRONT POULTRY HOUSE

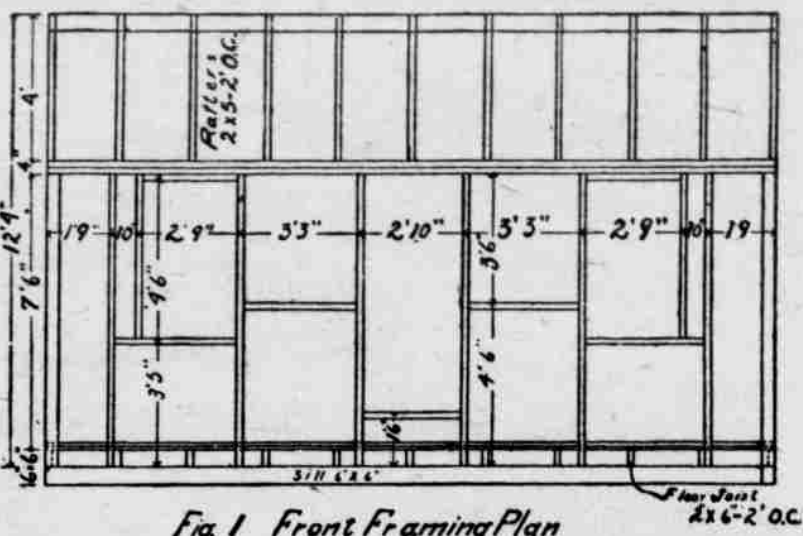


Fig. 1 Front Framing Plan

After working and experimenting with heated houses and then with glass front houses and various other kinds, many poultrymen and investigators came to the conclusion that they had not yet discovered the right way to build their poultry houses. Then came a radical change. It was from the closed warm house to the curtain-front house. These houses were constructed with two windows in front, one at each end, and in the center a long opening. The bottom of this opening window was high enough from the floor so there was no direct draft on the birds. The walls of the house were built absolutely tight so there were no drafts. The opening was covered only by a light cotton curtain. Thorough trials of this style of house developed the fact that the fowls kept in such buildings were more healthy and vigorous and produced more eggs than under other systems. So that now the curtain-front house has come to be generally accepted as the most desirable poultry house to build. The free circulation of air through the house removes all dampness, the litter is kept dry, and the birds scratch freely in it.

After several years of experimenting the Maine agricultural experiment station has adopted the following plan as the most economical in construction:

Each pen 20x20 feet will house 100 birds; a house may be made up of as many or as few sections or pens as the owner desires. A door in each partition will make it easy to do the work. In long houses one end section may be left for a feed room.

Three 6x6-inch sills run the length of the house, the center one supports the floor timbers in the middle of the house, while the outside ones rest on a rough stone wall, high enough from the ground for dogs and cats to go under the building to look after rats, etc., that may harbor there. The stone wall rests on the surface of the ground, with large openings in it every 20 feet to allow the circulation of air. This keeps the ground and timbers dry during the summer. The floor timbers are 2x6 inches and rest on top of the sills. The front studs are eight feet, six inches high. The two sides of the roof are unequal in width, the ridge being eight feet from

the front wall. The height of the front wall is made in the front wall. The lower half is boarded, the upper covered by the curtain. Another door, 15x15 inches, is placed six inches from the floor under one of the windows for the birds to pass through the front yard. A similar door in the center of back wall admits them to the rear yard. A light frame, made of 1x3-inch strips and 1x6-inch cross tees, is covered with ten-ounce white duck or unbleached sheeting and hinged at the top of the front opening, which it covers when closed down. This curtain is easily turned up into the room and held in place by hooks in the ceiling.

The roost platform should be made tight. It extends the full length of the room against the back wall, and is 4 feet 10 inches wide and three feet above the floor. It is then high enough for a person to get under when necessary to handle the birds or clean out the house. There are three roosts, framed together in two 10-foot sections. The top is one foot above the platform and hinged to the back wall, so they may be turned up out of the way when the platform is being cleaned. The back roost is 12 inches from the wall, and the spaces between the next two are 16 inches. They are made of 2x3-inch lumber placed on edge, with the upper corners rounded off. The roosting closet is shut off from the rest of the room by curtains similar to the one described for the front of the house. For convenience in handling there are two of these curtains, each 9 feet 8 inches long and three feet wide, hinged at the top so as to be turned out and hooked up. This leaves a space of 2 feet 6 inches between the curtain and the roof. This space is celled, and in it are two openings, each three feet long and six inches wide, provided with a slide door for ventilating the roosting closet when necessary. The nests are placed on framework under the roosting board. This frame should extend at least three inches beyond the back of the nests, and should be so arranged that they may be easily removed for cleaning.

If several of these houses are joined together to make one long laying house, a door should be placed in every compartment five inches out from the edge of the roosting platform. These doors are three feet wide and

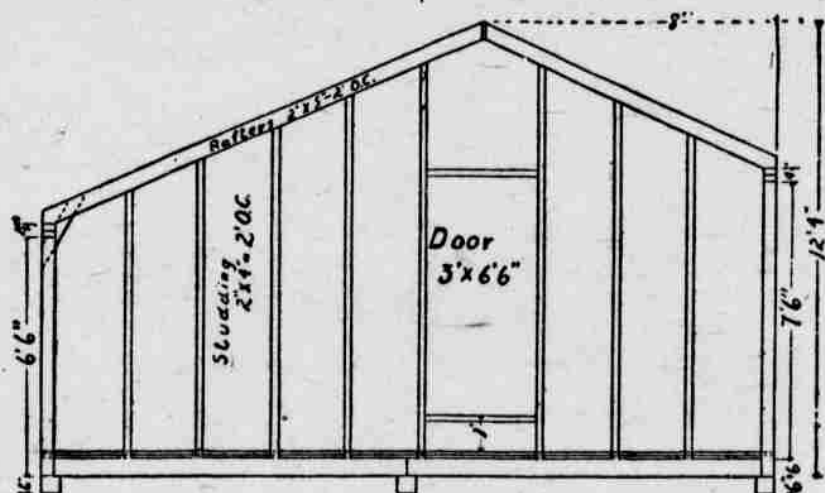


Fig. 2 End Framing Plan

seven feet high, divided in the middle lengthwise, and each half is hung with double-acting spring hinges, allowing it to swing both ways and to be kept closed without attention.

Extending across the building and through the center of the doorways a track of wood or iron may be placed for the ready movement of a suspended car. The platform of this car should be 2x8 feet and elevated about one foot above the floor. Attached to each end of the platform is an iron guard which projects one foot beyond. As the car passes through the building this guard strikes the doors and pushes them open easily. All food and water can be carried through the house on this car, and it will prove a great labor saver in a long laying house. The droppings from the roosting boards may also be removed on it, being gathered in pails or boxes, loaded on the car and pushed to the manure shed.

Care of Importance.
Feeding young chicks is important, but of less importance than the care they have.